WHAT IS CLAIMED IS:

1. A production method of a membrane-electrode assembly, comprising:

a first step of preparing ink including a carrier supported catalyst and a solvent, the carrier supported catalyst including a carrier and a catalyst supported by the carrier;

a second step of applying the ink to an electrolyte membrane; and

a reducing step of reducing the number of agglutinates which are contained in at least one of the carrier and the carrier supported catalyst before the second step is performed.

2. The production method according to claim 1, wherein the number of the agglutinates in the carrier is reduced in the reducing step before the first step is performed.

3. The production method according to claim 1, wherein the number of the agglutinates contained in at least one of the carrier and the carrier supported catalyst in the ink is reduced in the reducing step before the second step is performed.

4. The production method according to claim 3, wherein the number of the agglutinates contained in at least one of the carrier and the carrier supported catalyst is reduced in the reducing step while the first step is performed.

5. The production method according to claim 3, wherein the number of the agglutinates contained in at least one of the carrier and the carrier supported catalyst is reduced in the reducing step after the first step is performed and before the second step is performed.

6. The production method according to claim 1, wherein the number of the agglutinates contained in the carrier supported catalyst is reduced in the reducing step before the first step is performed.

7. The production method according to claim 1, wherein the reducing step includes at least one of a crushing step and a disintegrating step.

8. The production method according to claim 1, wherein the reducing step includes a filtration step.

9. A production method of a membrane-electrode assembly, comprising:

a first step of preparing ink including a carrier supported catalyst and a solvent, the carrier supported catalyst including a carrier and a catalyst supported by the carrier;

a second step of applying the ink to a base film; and a third step of hot-pressing, to an electrolyte membrane, the base film to which the ink has been applied; and

a reducing step of reducing the number of agglutinates which are contained in at least one of the carrier and the carrier supported catalyst before the second step is performed.

10. The production method according to claim 9, wherein the number of the agglutinates in the carrier is reduced in the reducing step before the first step is performed.

11. The production method according to claim 9, wherein the number of the agglutinates contained in at least one of the carrier and the carrier supported catalyst in the ink is reduced in the reducing step before the second step is performed.

12. The production method according to claim 11, wherein the number of the agglutinates contained in at least one of the carrier and the carrier supported catalyst is reduced in the reducing step while the first step is performed.

13. The production method according to claim 11, wherein the number of the agglutinates contained in at least one of the carrier and the carrier supported catalyst is reduced in the reducing step after the first step is performed and before the second step is performed.

14. The production method according to claim 9, wherein the number of the agglutinates contained in the carrier supported catalyst is reduced in the reducing step before the first step is performed.

15. The production method according to claim 9, wherein the reducing step includes at least one of a crushing step and a disintegrating step.

16. The production method according to claim 9, wherein the reducing step includes a filtration step.

17. A production method of a membrane-electrode assembly comprising

a step of preparing ink including a carrier supported catalyst and a solvent, the carrier supported catalyst including a carrier having a low content of impurities that cause formation of agglutinates and a catalyst supported by the carrier; and

a step of applying the carrier supported catalyst ink to an electrolyte membrane.

18. The production method according to claim 17, wherein the carrier is a carbon carrier, and the impurities includes at least one of vanadium (V), iron (Fe), and nickel (Ni).

19. The production method according to claim 18, wherein the carbon carrier satisfies at least one of i) a condition that a concentration of vanadium in the carbon carrier is equal to or lower than 0.1 % by weight, ii) a condition that a concentration of iron in the carbon carrier is equal to or lower than 0.05 % by weight, and iii) a condition that a concentration of nickel in the carbon carrier is equal to or lower than 0.1 % by weight.

20. A production method of a membrane-electrode assembly comprising

a step of preparing ink including a carrier supported catalyst and a solvent, the carrier supported catalyst including a carrier having a low content of impurities that cause formation of agglutinates and a catalyst supported by the carrier; and

a step of applying the ink to a base film; and

a step of hot-pressing, to an electrolyte membrane, the base film to which the ink has been applied.

21. The production method according to claim 20, wherein the carrier is a carbon carrier, and the impurities includes at least one of vanadium (V), iron (Fe), and nickel (Ni).

22. The production method according to claim 21, wherein the carbon carrier satisfies at least one of i) a condition that a concentration of vanadium in the carbon carrier is equal to or lower than 0.1 % by weight, ii) a condition that a concentration of iron in the carbon carrier is equal to or lower than 0.05 % by weight, and iii) a condition that a concentration of nickel in the carbon carrier is equal to or lower than 0.1 % by weight.

23. A membrane-electrode assembly, comprising:

an electrolyte membrane; and

an electrode which is formed on both sides of the electrolyte membrane using carrier

supported catalyst-containing ink that includes a catalyst, a carrier, and a solvent,

wherein the carrier is a carbon carrier which satisfies at least one of i) a condition that a concentration of vanadium in the carbon carrier is equal to or lower than 0.1 % by weight, ii) a condition that a concentration of iron in the carbon carrier is equal to or lower than 0.05 % by weight, and iii) a condition that a concentration of nickel in the carbon carrier is equal to or lower than 0.1 % by weight.